

PORES, FOR WHEN IT RAINS Agre Shares Insights of Lifetime of Water Studies

BY RICH MCMANUS

Aquaporin is not what happens when the tent leaks on a camping trip. But the discovery of aquaporins—long-sought molecules that serve as life-enabling water channels in all things that live—does, in a way, involve camping, according to Dr. Peter Agre, who shared the 2003 Nobel Prize in chemistry for the finding.

In a Sept. 9 Wednesday Afternoon Lecture that he aimed squarely at young scientists, Agre, 66, told a most agreeable story: a life rich with intellectual and social

camaraderie spanning the globe—from Oslo to Tokyo to Malawi—with friendships yielding a natural harvest of discovery, in an almost secondary way.

“I started out as one of you,” he told youthful investigators in Masur Auditorium, which was hosting a concurrent blood bank symposium, “and branched out.” He counseled newcomers to scientific careers to be persistent: “It’s hard to perceive how far things can go.”

Water has been called the universal solvent, or, as Nobel laureate Albert Szent-Gyorgy called it, “the solvent of life,” said Agre. But it “brings problems when in disequilibrium,” which can include hurricanes and monsoons as well as failed kidneys.

Water will diffuse through anything, of course, but when it meets an aquaporin, it is selectively chaperoned in a way unparalleled in biology.

SEE **AGRE**, PAGE 4



Dr. Peter Agre used an image of a flood because water was central to his recent talk.



NINDS team welcomes Italian patient, p. 3.

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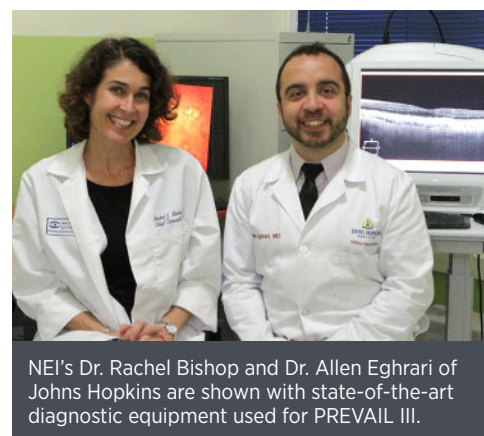
Lung Injury Limits Transplant Success

BY ERIC BOCK

Blood stem cell (a.k.a bone marrow) transplant is the only treatment option for patients with many conditions affecting the immune system, such as aplastic anemia, leukemia and sickle cell anemia, said Dr. Kenneth Cooke at a Contemporary Clinical Medicine/ Great Teachers Grand Rounds held in Lipsett Amphitheater on Sept. 9.

Before patients receive a transplant, high doses of chemotherapy or radiation are used to destroy their existing immune systems. Bone marrow stem cells from a donor are then used to seed a new immune system in the recipient. If all goes well, the donor cells multiply into a fully functioning immune network that protects the patient against disease, explained Cooke, professor of pediatric oncology at Johns Hopkins School of Medicine and director of the Pediatric Bone Marrow Program at Hopkins' Sidney Kimmel

SEE **TRANSPLANT**, PAGE 6



NEI's Dr. Rachel Bishop and Dr. Allen Eghrari of Johns Hopkins are shown with state-of-the-art diagnostic equipment used for PREVAIL III.

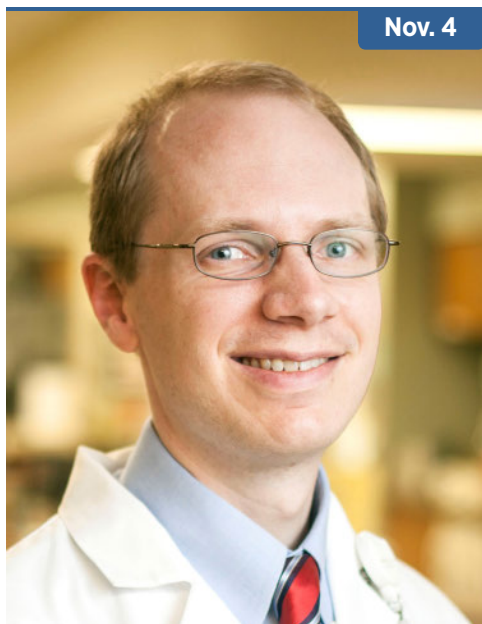
NEI Team Studying Ebola's Impact on the Eye

BY KATHRYN DEMOTT

A team of clinicians and technical experts from the National Eye Institute is traveling to Monrovia, Liberia to investigate the long-term effects of Ebola on the eye among hundreds of survivors following the 2014 outbreak in West Africa that led to 11,200 deaths in the region.

SEE **EBOLA**, PAGE 8

Nov. 4



Denny To Speak in NLM Series

The National Library of Medicine Informatics Lecture Series will feature Dr. Joshua Denny on Wednesday, Nov. 4 at 2 p.m. in Lister Hill Center Auditorium, Bldg. 38A. He will discuss "Use of Clinical Big Data to Inform Precision Medicine."

Denny is an associate professor in the departments of biomedical informatics and medicine at Vanderbilt University Medical Center. His team has linked phenotypic information from de-identified electronic health records to a DNA repository of nearly 200,000 samples, creating a "virtual" cohort. This approach allows study of genomic basis of disease and drug response using real-world clinical data. Denny is an advisor to the Precision Medicine Initiative at NIH.

Sign language interpreters will be provided. Individuals who need reasonable accommodation to participate should contact Ebony Hughes, (301) 451-8038, Ebony.Hughes@nih.gov or the Federal Relay (1-800-877-8339).

NIH SGM Strategic Plan Open for Comment Until Nov. 2

The NIH 2016-2020 Strategic Plan to Advance Research on the Health and Well-Being of Sexual and Gender Minorities (SGM) has been finalized. The plan is currently posted for public comment in the *Federal Register* (see <https://www.federalregister.gov/articles/2015/10/01/2015-25026/the-national-institutes-of-health-fy-2016-2020-strategic-plan-to-advance-research-on-the-health-and>).

Planners are eager to hear from the community about the proposed goals and objectives outlined in the NIH SGM Strategic Plan.

Those interested may review the plan and submit comments to sgmhealthresearch@od.nih.gov by Nov. 2. For more information on SGM-related activities at NIH, contact Karen Parker at klparker@mail.nih.gov or (301) 451-2055.



NIDA deputy director Dr. Wilson Compton makes a dramatic point about drug and alcohol addiction.



NIDA's Compton Rappels 12 Stories to Raise Awareness

On Sept. 25, NIDA deputy director Dr. Wilson Compton (above, l) rappelled down 12 stories on Lafayette Tower in Washington D.C., as part of a national movement to raise awareness about drug and alcohol addiction. Shatterproof, a national organization committed to protecting children from addiction to alcohol or other drugs and ending the stigma and suffering of those affected by this disease, is hosting more than 20 events in 2015 in cities across the United States. Before the rappelling, Compton participated in a press conference along with Shatterproof founder and CEO Gary Mendell and several congressmen. In the rooftop photo at right, Compton (l) prepares for his descent.

Alter Awarded Fries Prize for Improving Health

On Oct. 6, Dr. Harvey Alter (l, in photo), chief of the infectious diseases section and associate director of research for the Clinical Center's department of transfusion medicine, received the 2015 Fries Prize for Improving Health. He was honored for scientific research and leadership in translating science into practice that has prevented millions of new infections and cases of severe disease and death from hepatitis C and B virus and HIV. Alter received the award at the Centers for Disease Control and Prevention headquarters in Atlanta and presented information about his research to a crowd of nearly 500 people.



Alter is the 24th honoree to have received the Fries award. The prize amount is \$60,000 and the award itself is a bronze statuette titled "Celebration of Life."

Dr. James F. Fries (r), professor of medicine emeritus at Stanford University School of Medicine and namesake of the prize, told Alter in an email, "The Fries Prize is independent of field of endeavor and represents improvement of health outcomes. Informally, we refer to it as 'the Noblest Prize of all.' The jury recognized and discussed [many] elements in your own quest toward the eradication of three of the most important viral diseases of our time and of mankind. Our congratulations again and our thanks."

Annual Leave: Use or Donate It

Annual leave in excess of the maximum carryover limitation (in most cases 240 hours) is normally forfeited if not used or donated by the end of the current leave year. If you have not already planned to use those excess hours of annual leave, then discuss your leave with your supervisor now while there is still time to schedule it. Your bi-weekly Leave and Earnings Statement tells you how much annual leave you must use or donate so that you will not lose it when the leave year ends on Saturday, Jan. 9, 2016.

In spite of planning, circumstances sometimes arise that prevent you from taking leave that has been scheduled and approved earlier during the leave year. In such cases, you and your supervisor are jointly responsible for ensuring that any use or donate leave is officially rescheduled in ITAS. This year, your use or donate leave must be scheduled in ITAS no later than Saturday, Nov. 28.

Excess leave can also be donated to a colleague in need due to a medical emergency through the NIH Leave Bank (<https://hr.od.nih.gov/benefits/leave/vlbp/default.htm>) or to a participant of the Voluntary Leave Transfer Program. Both of these donations can be made in the Integrated Time and Attendance System.

If you or your supervisor have questions about use or donate leave, contact your administrative officer.

NINDS Intramural Scientists Participate In International Humanitarian Effort

BY SHANNON E. GARNETT

Fifteen year old Claudia Digregorio recently traveled from her hometown in Santaremo, Puglia, Italy to NIH on an important mission. She wanted to find a name and diagnosis for her neurological disorder, learn about possible treatments and, perhaps, even find a cure. Her trip was sponsored by the National Police Defense Foundation's Operation Kids Program.

Digregorio, who has suffered from a rare, yet undiagnosed, neurological disorder since age 5, visited NIH in early September to participate in a clinical research study led by Dr. Carsten Bönemann, chief of the neuromuscular and neurogenetic disorders of childhood section (NNDCS), Neurogenetics Branch, at NINDS. Digregorio's doctors in Italy have not been able to provide her with a diagnosis or effective treatment.

While Digregorio was at NIH, Bönemann's NINDS team—including Dr. Reghan Foley, a staff clinician; Dr. Payam Mohassel, a fellow in the Neurogenetics Branch; Sandra Donkervoot, a genetic



NNDCS chief Dr. Carsten Bönemann (r) and Dr. Payam Mohassel, a research fellow, conduct a detailed assessment of Claudia Digregorio.

counselor; and Christopher Mendoza, a patient care coordinator—conducted a detailed assessment of Digregorio's condition involving a battery of tests and procedures to determine the underlying cause of her disease as well as any potential treatments.

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Before coming to NIH, Digregorio also met with Pope Francis, who pledged his support and prayers for her health.

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Digregorio, who traveled to NIH with her mother and father, stayed at the Children's Inn during her week-long visit. At the inn, Van Mitchell, secretary of the Maryland department of health and mental hygiene, and Francesco Cascione, an NPDP representative, visited the family.

Although it's fairly common for children with rare, undiagnosed neurological illnesses to visit NIH for help—directly at NINDS or through the NIH Undiagnosed Diseases Program—Digregorio's journey was somewhat unconventional. Her story first came to the attention of the NPDP through a YouTube video that “went viral” asking internationally for help “to find a diagnosis for Claudia.”

As a result of the video, the NPDP contacted their counterparts at the Italian Police Defense Foundation and agreed to help Digregorio through the Operation Kids program—a congressionally recognized child

safety program committed to protecting children from criminals and life-threatening illnesses. To date the program has arranged eight lifesaving operations for critically ill children worldwide.

The NPDP then worked with NIH, specifically Bönemann and Foley, to secure an appointment for Digregorio. Before coming to NIH, Digregorio also met with Pope Francis, who pledged his support and prayers for her health.

Digregorio's NIH stay ended with a meeting to discuss early results of her medical evaluations and tests. According to Bönemann, the NINDS medical team will continue to follow her as part of the clinical study and as further results become available in the ongoing effort to establish her underlying diagnosis. **R**



ON THE COVER: Detail of artwork used in poster for 2011 NIMH Innovation Lecture Series.

IMAGE: NIH MEDICAL ARTS

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NIH National Institutes of Health
Turning Discovery Into Health



Van Mitchell (l), secretary of the Maryland department of health and mental hygiene, and Francesco Cascione (r), an NPDP representative, visit the Digregorio family at the Children's Inn.

PHOTOS: ERNIE BRANSON, MICHAEL SPENCER



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“I wondered, ‘Do I tell them that I got a D in high school chemistry?’ I could just envision my teacher, Mr. Thornton, aspirating his corn flakes.”

-DR. PETER AGRE

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Agre

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This chance finding grew out of studies of the Rh blood group antigen; a 28-kilodalton molecule was thought to be a contaminant, but appeared so abundantly in nature that Agre and others decided to “clone it out” in order to discover its function. After all, “a protein without a function is like a scientist without a grant,” he quipped.

Agre, a native Minnesotan, had been in the habit of going tent camping in national parks with his family. They had enjoyed Yosemite, Grand Canyon, the Everglades and others. But one year his kids insisted on Disney World in Orlando.

Agre had spent 3 years as a postdoc at the University of North Carolina at Chapel Hill (coincidentally, at a time when NIH director Dr. Francis Collins was training at UNC) and dropped in on his way back to Baltimore from Orlando to visit Dr. John Parker, an old friend.

The two got to talking about what this naturally abundant molecule could be, with Agre wondering if it could be an oxygen channel. Parker thought it was the long-sought water channel molecule and turned out to have had the correct hunch.

“Discovery is the reward in science,” said Agre, noting that Parker deserves credit for the key insight.

Agre said his first job was to determine the structure of AQP1, which could give investigators “a good idea of the molecule’s function.”

“Water is an interesting molecule,” he said. “Every living organism has one or more aquaporins.”

Researchers soon discovered AQP1 in the proximal nephron of the kidney; suddenly, the world was focused on this new protein and its clinical significance.

“It’s amazing the power that science has when people work as colleagues,” said Agre, who counted former NIH director Dr. Elias Zerhouni as a key contributor, for his technique for evaluating water in the lung via CT scan. Agre admitted, “I felt a little overwhelmed by the international interest in aquaporins.”

Not long after AQP1 was discovered, AQP2 was cloned in Tokyo, in intracellular vesicles, Agre said. The race was on. Defects in the AQP2 gene were found to cause severe diabetes insipidus, but occur only rarely. Defects in AQP0, found in the eye lens, cause cataracts in small children, some of whom go blind. AQP4 is found in the blood/brain barrier and can accelerate damage in post-stroke brain edema; counteracting that function can benefit victims of stroke, the third leading cause of death in the U.S.

Agre disclosed that his wife, Mary, was the beneficiary of this insight, and is now fully recovered.

AQP5 is found in sweat and secretory glands and saliva. “We believe aquaporins are tied to the stress response,” said Agre, adding that AQPs likely play a role as environmental response modifiers. He surmises that this function went awry for some of the 15,000 people who died when a major heat wave swept Europe in the summer of 2003.

Another class of AQP known as an aquaglycoporin plays an important role in skin hydration and provided Agre with an amusing anecdote. Cosmetic firm Christian Dior hoped Agre would endorse its product that ostensibly took advantage of this molecule’s salutary effect on skin. A full-page ad in a French magazine alleged that the product was built on Nobel laureate science.



Top: A suburban Baltimore liquor store touts Agre’s Nobel Prize, while above, Agre’s wife Mary recovers from an illness, courtesy of her husband’s medical insights.

PHOTOS: BILL BRANSON



“My 80-year-old mother, back in Minnesota, saw the advertisement and said, ‘Finally, you’re doing something useful.’”

Agre’s usefulness nowadays is in directing the Johns Hopkins Malaria Research Institute, where insight into aquaporins is focused on ameliorating blinding cerebral malaria in the small children of sub-Saharan Africa, 600,000 of whom died last year; millions more suffer complications.

In other global work, basic research on the functions of AQP 7 and 9, found in fat and liver, respectively, may be able to counter the effects of arsenic-contaminated groundwater in India, which has been associated with an epidemic of liver cancer.


Agre said the AQPs found in all plants also present scientific opportunities: “The challenge is to do something useful.”

At the end of his talk, Agre shared the excitement of the pre-dawn call from Stockholm that heralded his Nobel Prize in 2003. “I wondered, ‘Do I tell them that I got a D in high school chemistry?’” he recalled. “I could just envision my teacher, Mr. Thornton, aspiring his corn flakes.”

Agre’s mother warned Agre’s wife, “That’s very nice, but don’t let this go to his head.”

Displaying a photo of Nobel congratulations posted on a suburban Baltimore liquor store sign, Agre noted, “It wasn’t because I was their best customer.”

His final slide, offered by his last postdoc as he closes his laboratory, featured two Chinese letters, wei and ji, which combine to form the symbol for crisis. They stand, he said, for danger plus opportunity.

The full lecture can be viewed at <http://videocast.nih.gov/summary.asp?Live=16898&bhcp=1>. 

‘EYE-OPENING’

NIMHD Course Provides Foundation for Health Disparities Research

BY GERDA GALLOP-GOODMAN

Having just emerged from a lecture by Dr. Daniel Onion, who discussed the cardiovascular disease prevention programs he has conducted for 40 years in rural Maine, recently written up in *JAMA*, Dr. Yolanda Haywood was eager to talk about her experience as one of 94 scholars selected for the 2015 NIMHD translational health disparities course.

“It’s transformative, eye-opening and inspiring,” said Haywood, dean of diversity, inclusion and student affairs at George Washington University School of Medicine and Health Sciences. “Participating in this course helps to focus you on the purpose of your work and how important it is.”

The highly competitive, intensive 2-week course, which has drawn an average of 350 applications over the past 3 years, provides an introduction to the principles and practice of health disparities research.

“The purpose of this course is simple—we need to take the fullest advantage of every individual’s talent and ability to contribute to addressing the disproportionate burden of poor health and related outcomes for certain population groups,” said Dr. Irene Dankwa-Mullan, course director and acting deputy director, NIMHD Division of Extramural Scientific Programs. “As stewards of the largest biomedical and clinical research enterprise, we cannot afford to disregard the potential scientific and clinical brainpower available to us through the institutions and organizations poised to address health disparities.”

While scholars (pictured below) are on campus, they attend presentations by experts from diverse disciplines followed by panel discussions, work in teams on case studies, participate in network sessions with other NIH staff involved in health disparities research and learn about NIH research and training. Scholars also toured labs at the Clinical Center and the Porter Neuroscience Research Center.

Dr. Ewan K. Cobran, an assistant professor at the University of Georgia who studies the side effects and health disparities of radiation therapy, was so intrigued by a state-of-the-art linear accelerator (a device used to deliver radiation treatment to cancer patients) in NCI’s Radiation Oncology Branch that he filmed a video to share with his students back home.

“It’s truly fantastic to see bench-to-bedside treatment options,” said Dr. Suneeta Kercood, a professor at Butler University in Indianapolis, who toured the NIAAA-NIDA section on clinical psychoneuroendocrinology and neuropsychopharmacology. “It was amazing to see what research is being done and nice to know people can get help here for their issues when they can’t get help elsewhere.”

Over the course of 8 modules, scholars learn about topics such as prevention science and Big Data, genomics and developmental neuroscience and health disparities, environmental justice and health disparities, systems science and complex models and methods, comparative and health care effectiveness research and diversity and inclusion in clinical trials.

“It’s amazing to see the fruition of people’s work and how long they’ve been doing this work,” said Dr. Esohe Ohuoba, an assistant professor of obstetrics and gynecology at Baylor College of Medicine. “Their passion and excitement makes you want to go out and do the same.”



Transplant

CONTINUED FROM PAGE 1

Comprehensive Cancer Center.

Sometimes, however, the immune cells mistake the cells of their new host for a disease-causing invader. The result is graft vs. host disease (GVHD), a potentially life-threatening condition where the donor cells—the graft—attack the patient cells—the host. GVHD is “always a risk unless the donor and host are identical twins,” Cooke said.

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“I think it’s a safe and efficacious therapy and...our data in pediatrics supersedes anything else in the published literature.”

—DR. KENNETH COOKE

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Lung injury is also a major problem that continues to limit successful outcomes after bone marrow transplantation (BMT). Lung inflammation can occur early after BMT or later and may be infectious or non-infectious in origin. “When lung complications occur within the first 3 to 4 months after BMT and develop in the absence of infection, they fall under the umbrella of idiopathic pneumonia syndrome [IPS],” he said.

Historically, patients with IPS are treated with supportive care and steroids. However, these treatments have been ineffective. “The median time from diagnosis to death is 14 days, so many of these patients would go to the intensive care unit and not come back to us,” he said.

Cooke believes many cases of IPS can be traced to damage of endothelial cells, which line the inside of blood vessels. This endothelial cell layer is responsible for several functions, including controlling blood pressure and allowing white blood cells to pass back and forth from the blood vessels to the lymphatic system.

In mouse studies, Cooke observed that animals with GVHD developed inflammation in their lungs. He believes that T-cells, a type of white blood cell, could trigger an immune response that attacks the endothelium in the lungs. An inflammatory protein called TNF



Dr. Kenneth Cooke gives Great Teachers lecture.

PHOTOS: BILL BRANSON

alpha may be involved in the response. This immune attack may cause injury to the lungs as a manifestation of GVHD.

Cooke said observations made in the laboratory regarding the role of TNF alpha in non-infectious lung injury after BMT led to a clinical trial of etanercept, an FDA-approved drug that blocks TNF alpha. It's used to treat rheumatoid arthritis and psoriasis in patients with IPS.

In the drug's first trial, 3 pediatric patients with severe IPS who required mechanical breathing machines received 2 doses of the drug per week over a 4-week period. Remarkably, each patient responded to treatment and was able to come off of the breathing machine. Unfortunately, each patient ultimately died from other complications, but IPS was not the cause of death.

Cooke and his team at the University of Michigan next combined efforts with

colleagues at Dana-Farber Cancer Institute to conduct an early phase, prospective clinical trial on 15 adult and pediatric BMT recipients with IPS. Nearly 70 percent of patients responded to the combination of steroids and etanercept. Cooke's research team took advantage of blood and lung samples to further their understanding of what causes IPS in humans.

With a growing body of laboratory data and the encouraging early responses seen in initial clinical trials, Cooke and his colleagues then launched 2 national multi-center clinical trials for patients with IPS: 1 trial in pediatric patients and 1 in adult patients over age 18.

The pediatric trial closed early due to effectiveness. Cooke said 40 patients enrolled in the study. They received the drug with steroids or a placebo twice a week for 4 weeks. He hoped that more than half of patients would respond to treatment. However, “we had a 70 percent response rate for efficacy. So it led to early closure.”

The other trial opened in 2007. Originally, 120 adult patients were to be enrolled. Unfortunately, this trial closed early because it couldn't recruit enough participants. “This was a tough pill to swallow,” he said.

Cooke still thinks etanercept can be used for patients post-transplant. “I think it's a safe and efficacious therapy and I think our data in pediatrics supersedes anything else in the published literature,” he added.

Despite his best efforts, “lung dysfunction remains a problem after transplant.” His lab continues to seek insights into the underpinnings of IPS, especially early indicators that will predict who is at risk of developing IPS and who might ultimately respond to anti-TNF therapy.

Hallett Wins 2015 Distinguished Clinical Teacher Award

Before Dr. Kenneth Cooke's Great Teachers Grand Rounds, NINDS's Dr. Mark Hallett received the 2015 Distinguished Clinical Teacher Award, given by the NIH clinical fellows committee. Hallett is chief of NINDS's Medical Neurology Branch and chief of its human motor control section.

Established in 1985, the award recognizes excellence in mentoring health care professionals, excellence in teaching about issues related to direct patient care and outstanding contributions to the advancement of clinical research.

“Training and mentoring are part of our mission elements,” said CC director Dr. John Gallin. Outstanding clinical mentors “have been a key component to the success of the Clinical Center since we opened in 1953.”



Sulik To Deliver NIAAA's Keller Lecture, Nov. 5

Dr. Kathleen Sulik will deliver the 2015 Mark Keller Honorary Lecture on Thursday, Nov. 5 at 2 p.m. in Masur Auditorium, Bldg. 10. The title of her talk is "Embryos and Ethanol: Basic Research to Prevention." She is an internationally recognized embryologist and teratologist whose work has greatly advanced our understanding of prenatal development and alcohol-induced birth defects.

Currently, Sulik is professor of cell biology and physiology and head of developmental toxicology at the Bowles Center for Alcohol Studies at the University of North Carolina, Chapel Hill.

Sulik has made many significant contributions to the fetal alcohol research field. Her early seminal work on a mouse model for fetal alcohol syndrome (FAS) established that alcohol induces facial abnormalities during early gestation, indicating that alcohol may affect the human embryo even before a woman recognizes that she is pregnant. This study, published in *Science* in 1981, critically informed the development of current medical guidelines advising women to abstain from



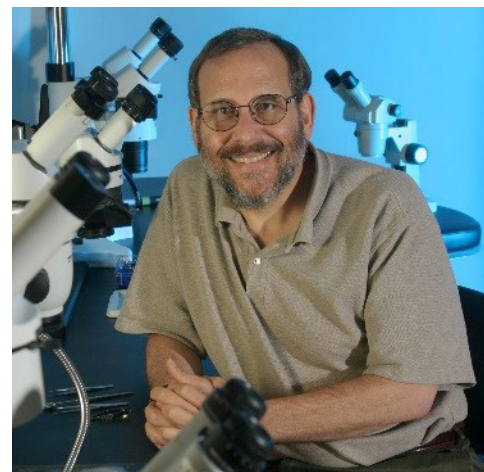
alcohol consumption during all stages of pregnancy.

Research in Sulik's laboratory has continued with seminal work defining alcohol's teratogenic mechanisms and associated pathogenesis, work which has clarified how alcohol interferes with prenatal development and causes birth defects. She and her team have shown that the type and severity of alcohol-

related birth defects are dependent upon exposure pattern and dosage, developmental stage at the time of exposure and genetic background, as well as environmental factors.

Sulik also is using state-of-the-art imaging for improving diagnosis of fetal alcohol spectrum disorders. Her current efforts, funded by NIAAA under the Collaborative Initiative on Fetal Alcohol Spectrum Disorder consortium, employ sophisticated imaging techniques such as magnetic resonance imaging, diffusion tensor imaging and dense surface modeling to understand how the facial abnormalities used to diagnose FAS may relate to specific deficits in the brain.

NIAAA established this honorary lecture series as a tribute to Keller, a pioneer in alcohol research. Honorees have made significant contributions to our understanding of alcohol's effects and how we can prevent and treat alcohol problems. **R**



Audacious Goals Initiative Launches Seminar Series, Nov. 2

Dr. Joshua R. Sanes kicks off the new NEI Audacious Goals Initiative Seminar Series in Neuroregeneration on Monday, Nov. 2 at 3 p.m. in Lipsett Amphitheater, Bldg. 10. He will discuss "Assembly of Feature-Detecting Circuits in the Retina."

Sanes is director of the Center for Brain Science and professor of molecular and cellular biology at Harvard University. He studies the formation of synapses and how specific connections form in the visual system to generate the complex circuits that underlie information processing. He is funded by the BRAIN Initiative and has pioneered new ways to mark and manipulate neurons and synapses, including the "Brainbow" technique.

The AGI series explores topics relevant to regenerative neuroscience and medicine, with special emphasis on the visual system. The AGI is a sustained effort by NEI to catalyze research toward new therapies for disorders that affect the retina and its connections to the brain.

Next Protocol Navigation Lecture Set

The IRP Protocol Navigation Training Program Seminar Series continues with a lecture on Monday, Nov. 2 from 2 to 3 p.m. in Bldg. 50, Conf. Rm. 1227/1328. The program is a trans-NIH effort to develop resources and tools and to provide training for intramural staff and contractors involved in protocol development, writing, coordination and management. Dr. Carrie Wolinetz, NIH associate director for science policy, will present "The Common Rule NPRM: What You Need to Know." For more information, contact Marcia Vital, (301) 451-9437, vitalm@mail.nih.gov.

NOV. 6

Symposium Marks PRAT's 50th Anniversary

The NIGMS Postdoctoral Research Associate (PRAT) program is marking its 50th anniversary with a day-long scientific symposium on Friday, Nov. 6 from 8 a.m. to 4:30 p.m. in Kirschstein Auditorium, Bldg. 45.

PRAT is a 3-year postdoctoral fellowship program that provides laboratory experience in the NIH intramural program along with career development and networking opportunities. Created in 1965 to address a national need for well-trained pharmacologists, the program expanded over the years to include all research areas within the NIGMS mission. To date, PRAT has supported more than 400 fellows who have become leaders in academia, industry and government.

The symposium will feature presentations by 10 PRAT alumni on topics ranging from the cellular response to starvation to harnessing the prognostic and diagnostic potential of the microbiome, as well as remarks by NIGMS director Dr. Jon Lorsch and NIH deputy director for intramural research Dr. Michael Gottesman. The event will also include a mid-day poster session where current PRAT fellows will present their research.

For details, visit <https://meetings.nigms.nih.gov/Home/Index/19247>. You can also watch the event live or later at <http://www.videocast.nih.gov>.

Ebola

CONTINUED FROM PAGE 1

NEI's investigation is part of a larger study called PREVAIL III (Partnership for Research on Ebola Vaccines in Liberia) sponsored by NIAID and the Liberian Ministry of Health. The goal is to understand the long-term health implications of Ebola virus disease among those who survived acute infection with the virus, many of whom report a variety of ailments from headaches and tinnitus, to joint and muscle pain, eye fatigue and blurry vision.

While physicians have some understanding about how to manage the infection during the acute phase, their strategies are experimental and much is still unknown about the natural history of Ebola virus, including in the eye and its long-term effects on ocular health and vision, said Dr. Rachel Bishop, chief of the consult services section at NEI and part of the NIH team in Liberia.

Ebola lingers in the eye after a person recovers from the acute illness and the blood is virus-free, a fact that Bishop emphasizes

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“Despite the tragedy that the Liberians have endured, you get a sense of positive energy and liveliness—so it’s actually a happy place to work. It’s a true collaboration.”

—DR. RACHEL BISHOP

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does not put other people at risk of becoming infected because the virus is inside the eye, not on the surface. Nor is there any evidence that live virus is present in survivors' tears. But transmission associated with the eye could be a potential concern in the future if eye surgery should be needed.

Based on literature reports from the 1990s, it was anticipated that some survivors of the latest Ebola epidemic would develop uveitis, an inflammatory eye disease. However, “at this point we don’t know the extent of the effect of Ebola on the eye,” said Bishop. “We’ve seen changes to nearly every part of the eye among Ebola survivors, including many changes in the retina [the light-sensitive part of the eye]. And some survivors are having vision problems such as difficulty focusing

and eye fatigue, the causes of which remain elusive.” In addition, some Ebola survivors show signs of cognitive changes after the infection, which could also contribute to vision difficulties, she said.

Conducted at multiple sites in Liberia, PREVAIL III will aim to enroll 7,500 people, including 1,500 survivors and up to 6,000 of their close contacts to serve as controls. The findings may help determine if survivors are immune from future Ebola infections and will assess the risk of transmitting the virus to close contacts and sexual partners. In addition to the eye, the virus appears to persist in the testes; semen can carry live virus months after recovery and clearance from the blood.

A floor of the John F. Kennedy Medical Center in Monrovia was renovated to establish medical facilities for PREVAIL III. The NEI team, along with Dr. Allen Eghrari, from Johns Hopkins University, oversaw the design of an eye clinic outfitted with state-of-the-art diagnostic equipment that allows the investigators to document changes in the eye.

The NEI team will periodically return to Liberia, where it is assisted by a local team including nurses, technicians and administrative support staff. Liberian ophthalmologists provide follow-up care for participants needing treatment.

“Despite the tragedy that the Liberians have endured, you get a sense of positive energy and liveliness—so it’s actually a happy place to work. It’s a true collaboration,” Bishop said.

The Liberians are also grateful, said NEI’s Guy Foster, chief of the clinical services section, who helped set up the clinic equipment. Recalling an ophthalmologist working at an outlying clinic, he said, “This man was used to sticking a flashlight on top of the slit lamp to examine his patients’ eyes. No LED bulbs. No electricity. The ocean air corrodes the equipment so nothing really functions well and yet they are still trying to see patients. I showed him what we are doing in the clinic and he hugged me. He said ‘Now I can treat patients. I was about to give up.’” **B**



Bishop and Eghrari (front row, l) with the eye clinic's team of nurses, technicians and administrative support staff



Linda Huss receives her 40-year service award during NEI's recent Director's Award ceremony.

Huss Retires After 40 Years in Federal Government

BY KYM COLLINS-LEE

Linda Huss, a familiar face around NEI for nearly three decades who's been responsible for exhibits, publications and images, recently called it a career.

Huss began her federal career on Sept. 2, 1975, at the FDA Bureau of Biologics in Bldg. 29A on campus. She worked in the Division of Compliance, filling out protocols for new drug applications and later worked in the bureau's Freedom of Information Office. In 1981, she applied for a position in the NIGMS communications office. In the early days, the University of the District of Columbia held classes at NIH, encouraging staff to enroll and earn college credits. It was the perfect program for Huss as a working mother.

In 1987, Huss won a post in the NEI communications office where she has spent the last 28 years. Her fondest memory was working under communications director Judith Stein. The office was an exciting place where staff promoted clinical trials and research results to the media and the public, Huss recalls. It was life before electronic dissemination and involved using creative products to highlight results of large multi-center clinical trials at press conferences and at meetings such as the American Academy of Ophthalmology and the American Optometric Association.

Huss was involved in the development of publications and traveling exhibits to promote NEI research. She and colleagues planned many photo shoots using NEI staff and their families who volunteered their time. The photos were highlighted on the NEI web site

(developed in 1997) and in traveling exhibits, displays and publications for patients and the public. Several of the images have also been used by the media and public and professional organizations.

"It was so much fun planning and developing materials and working with professional photographers," Huss said. "NEI doctors and NEI families would come to the clinic and act as patients for eye exams and simulated procedures. The lab photo shoots with NEI researchers were just as exciting to set up. Photographers would capture their research using creative camera lenses and make their work look like art."

That's exactly what happened when the idea came up for the "Eye as Art" exhibit that Huss oversaw in the Bldg. 31A hallway.

"NIH communications is the place to be if you want to serve the public and promote the important medical discoveries NIH is making to improve health and save lives," she says.

Over the years, Huss felt proud to be a part of the NIH community and see its scientists quoted in newspapers and magazines. Her career spanned use of the first computers, web sites and now social media.

Huss feels fortunate to have worked under NEI director Dr. Carl Kupfer for her first 17 years at NEI and Dr. Paul Sieving for the last 11 years. She has seen great colleagues come and go and has met many talented people at NIH.

As she moves to the next chapter of her life, she plans to live one day at a time and enjoy getting into a routine.

"I do have a bucket list," Huss says. She and her partner David Pair, an NIH alumnus, are booked on a 12-day land and sea trip to Alaska in May 2016. They also have some jazz festivals lined up for this fall, including one in Rehoboth Beach, Del.

Huss's large family all live in the Washington area. The reason she wants to retire is because 40 years of doing something fun can only lead to more fun in life. Quoting Lucille Ball, Huss noted, "I'd rather regret the things I've done than regret the things I haven't done." She also wants to register with the Olney Theatre to help out with seating guests—a good deed that will allow her to see shows for free. Last but not least, she looks forward to watching NIH from the outside and will always keep her eye on NEI.

NCI Biostatistician Wacholder Dies

Dr. Sholom Wacholder, an expert in cancer epidemiology and biostatistics in NCI's Division of Cancer Epidemiology and Genetics, died Oct. 4 at his home in Rockville.

He leaves behind a legacy of research excellence in genetic epidemiology. A statistician by training, he was sought out by colleagues to advise on critical methodological and analytic components of nearly all major undertakings of the division over the past 30 years.

He was lead statistician for the NCI study of the



Dr. Sholom Wacholder

natural history of human papilloma virus and cancer, culminating in the launch and successful completion of the NCI Costa Rica HPV Vaccine Trial.

Wacholder began working in genetic epidemiology with the Washington Ashkenazi Study and was one of the first to develop kin-cohort analysis, a novel sampling approach to eliminate statistical bias from studies of genetically similar populations.

His interest in childhood cancers led him to research on electromagnetic fields and childhood acute lymphocytic leukemia, and later to pursue the inheritance of osteogenic sarcoma, a cancer that targets adolescents and young adults. He was also a key collaborator on large, comprehensive case-control studies of lung cancer and renal cell cancer.

He made many contributions to the methodologic rigor of his division's work, including the design of case-control studies; the contribution of underlying population substructure to error in association studies; and a formal method for evaluating the chance that a reported positive finding is a false positive by incorporating external information.

Roaming the halls of DCEG or sequestered in his office surrounded by stacks of paper, Wacholder constantly sought to teach those around him, engaging his peers as well as support staff in debates over scientific and philosophical approaches to the work at hand.

Wacholder received a Ph.D. in biomathematics from the University of Washington in 1982. He was a fellow of the American Statistical Association and an elected member of the American Epidemiological Society. He served on the editorial boards of numerous journals, including *Epidemiology*, *Cancer Epidemiology Biomarkers and Prevention*, *Journal of the National Cancer Institute* and the *American Journal of Epidemiology*.

He is survived by his wife, Michelle, their two adult sons, Aaron and Jonah, his sisters and brother, and many nieces and nephews.



NIAID's Dr. William E. Paul

Pioneering Immunologist Paul Mourned

BY LINDA HUYNH

Dr. William E. Paul, a renowned immunologist and long-time laboratory chief at the National Institute of Allergy and Infectious Diseases, died Sept. 18 at age 79 due to complications from acute myeloid leukemia.

As chief of the Laboratory of Immunology since 1970, Paul made seminal discoveries and published more than 600 scientific studies. He discovered interleukin-4, a key immune mediator, and revealed its role in allergic and inflammatory diseases. He also delineated the mechanisms whereby naïve T cells develop into mature effector cells, which carry out essential tasks in the context of infection, allergy and inflammatory diseases. In addition, Paul led the NIH Office of AIDS Research from 1994 to 1997, developing the first comprehensive plan and a unified budget for all NIH-sponsored AIDS activities. He also served in the Public Health Service, achieving the rank of rear admiral.

"Bill was an icon in the field of immunology and a respected and beloved member of the NIH community," said NIAID director Dr. Anthony Fauci. "He was a wonderful colleague and friend to me, to so many of us at NIH and in the global immunology community. He will be sorely missed."

A Brooklyn native, Paul graduated from Brooklyn College in 1956 and the State University of New York Downstate College of Medicine in 1960. After completing his clinical training, he joined future Nobel laureate Dr. Baruj Benacerraf in 1964 at New York University School of Medicine. Paul came to NIAID in 1968 and was appointed chief of the Laboratory of Immunology (LI) 2 years later. Under his leadership, LI became one of the world's premier centers of immunological research, a testament to Paul's scientific and leadership abilities.

He received many honors, including the Lifetime Achievement Award and the Excellence in Mentoring Award from the American Association of Immunologists (AAI) and the Honorary Lifetime Membership Award from the International Cytokine Society. He was a member of the National Academy of Sciences and its Institute of Medicine. Previously, he was president of both the AAI and the American Society for Clinical Investigation.

Notably, Paul was chief editor of the *Annual Review of Immunology* from its inception until 2011, and he authored *Fundamental Immunology*, a leading immunology textbook. He also wrote a lay-audience book, *Immunity*, published in September 2015.

Paul enjoyed tennis, swimming, theater, music, reading and traveling. He is survived by his wife of 57 years, Marilyn H. Paul; sisters Linda Weinstock and Harriet Darvas; sons Jonathan Carmel and Matthew Paul; and six grandchildren.

OFM Director Stith Dies at 67

Ken Stith, director of NIH's Office of Financial Management and deputy chief financial officer, died Aug. 8 after a long struggle with a brain tumor.

Stith held an M.B.A. in corporate finance from Oklahoma City University and a B.S. in accounting from Southern Illinois University. After 25 years of active duty service in the U.S. Air Force, he retired a colonel and had won a Legion of Merit award.

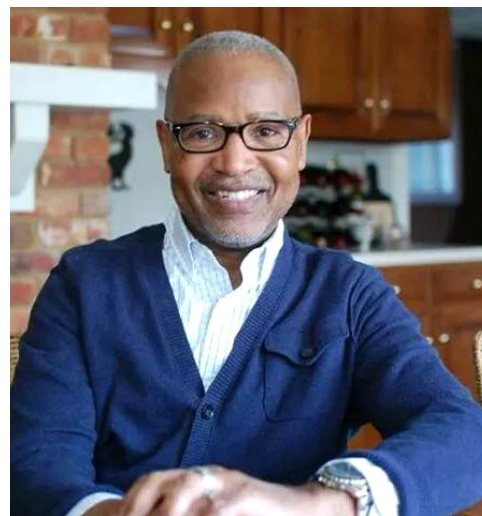
Prior to joining NIH in 2000, he worked as senior manager consultant for PricewaterhouseCoopers LLP.

In his role as OFM director, Stith guided NIH's central accounting arm for all financial transactions originating from the 27 institutes and centers. He was the recipient of the President's Meritorious Senior Executive Award, Secretary's Distinguished Service Award and NIH Award of Merit.

Stith had strong interests in mentoring and counseling men as a volunteer family counselor. He helped many new federal employees in his work as a mentor in the Presidential Intern program and senior executive programs at OPM.

"Ken had other strengths exemplified by his interpersonal relations, conflict avoidance and resolution and his ability to get people from different organizational perspectives to cooperate with each other," said MaryAnne Haskell, program specialist to the OFM director. "He had a genuine heart and love for all people and would strive to see things from another's perspective, always taking the time to slow down enough to listen and hear what the other person was saying. He understood the difference between the matters at hand and the turmoil of emotions, when feelings get hurt. This allowed Ken the unique ability to separate the 'wheat from the chaff,' as he would say, remain calm and focus on finding the solution rather than getting caught up in the actual words spoken in the heat of the moment of stressful situations.

"I haven't spoken to any who met Ken Stith, whether friend or colleague, who didn't love, respect and appreciate him," she continued. "Ken had a way of



Ken Stith of OFM

making you feel like you were just accepted and appreciated after you left his presence."

Internment with military honors was held at Oakwood Cemetery in Falls Church, Va. Stith is survived by his wife Yolanda and three children: Saalik and his wife Camilla Stith, Rachel and her husband Soon Moon, and Benjamin Stith; his mother, Alene Stith; his sister Gloria Barbour; five grandchildren and many nieces and nephews.

NIMHD Welcomes Nine Council Members

NIMHD recently held its 40th advisory council meeting with new participants Dr. Eliseo J. Pérez-Stable, new institute director, and nine new council members.

Dr. Margarita Alegría is director of the Center for Multicultural Mental Health Research at Cambridge Health Alliance and a professor in the department of psychiatry at Harvard Medical School. She has devoted her career to researching disparities in mental health and substance abuse services, with the goal of improving access to and equity and quality of these services for disadvantaged and minority populations.

Dr. Maria Araneta, a perinatal epidemiologist, is a professor in the department of family and preventive medicine at the University of California, San Diego. Her research interests include maternal/pediatric HIV/AIDS, birth defects and ethnic health disparities in type 2 diabetes, regional fat distribution, cardiovascular disease and metabolic abnormalities.

Dr. Judith Bradford is director of the Center for Population Research in LGBT Health and co-chairs the Fenway Institute, Boston. She works with public health programs and community-based organizations to conduct studies on lesbian, gay, bisexual and transgender people and racial minority communities and to translate the results into programs to reduce health disparities.

Dr. Linda Burhansstipanov is an educator, public

health leader and researcher with a focus on Native American health issues such as cancer prevention, community-based participatory research, navigation programs, cultural competency and evaluation. She founded Native American Cancer Initiatives, Inc., and the Native American Cancer Research Corp.

Dr. Sandro Galea, a physician and epidemiologist, is dean and professor at Boston University School of Public Health. His research focuses on the causes of brain disorders, particularly common mood and anxiety disorders and substance abuse.

Linda Greene is Evjue Bascom professor of law at the University of Wisconsin Law School. Her teaching and academic scholarship include constitutional law, civil procedure, legislation, civil rights and sports law.

Dr. Ross A. Hammond, a senior fellow in the economic studies program at the Brookings Institution, Washington, D.C., is also director of the Center on Social Dynamics and Policy. His primary area of expertise is using mathematical and computational methods from complex systems science to model complex dynamics in economic, social and public health systems.

Dr. Hilton Hudson II is chief of cardiothoracic surgery at Franciscan Healthcare, Munster, Ind., and a national ambassador for the American Heart Association. He also is founder of Hilton Publishing, Inc., a national publisher dedicated to producing content on solutions related to health, wellness and education for people in underserved communities.

Dr. Brian M. Rivers is a research faculty member at the H. Lee Moffitt Cancer Center and Research Institute, Tampa, Fla. His research focuses on examination of unmet educational and psychosocial needs and the development of communication tools, couple-centered interventions and evidence-based methods to convey complex information to at-risk populations across the cancer continuum.

NINR Council Welcomes Four New Members

The National Institute of Nursing Research recently welcomed four new members to the National Advisory Council for Nursing Research.

Dr. Beverly Priefer is acting director of research and evidence-based practice programs in the Office of Nursing Services within the Veterans Health Administration. She supports the recruitment and retention of nurse scientists through training and mentoring and oversees ONS national evidence-based practice initiatives.

Col. Michael L. Schlicher is executive director for the military's TriService Nursing Research Program in Bethesda. His research seeks to use aspects of nanotechnology to develop new nursing therapeutics for wound healing, pain control and disease prevention.



Dr. Patricia Grady (c) meets the newest members of the National Advisory Council for Nursing Research. They are (from l) Dr. Alexa Stauffbergen, Dr. Jennifer Temel, Dr. Beverly Priefer and Col. Michael L. Schlicher.

Dr. Alexa Stauffbergen is the dean, James R. Dougherty, Jr. centennial professor in nursing and holds the Laura Lee Blanton chair in nursing at the University of Texas. She is internationally known for innovative research projects in health promotion for persons with chronic and disabling conditions.

Dr. Jennifer Temel is an associate professor of medicine at Harvard Medical School, clinical director of thoracic oncology at Massachusetts General Hospital, director of cancer outcomes research at MGH Cancer Center and co-leader of the Dana-Farber/Harvard Cancer Center Outcomes Research Program. Her research focuses on optimizing palliative and supportive care for patients with cancer and their families. **R**

Become a Healthy Volunteer

An NIH research study is enrolling healthy persons ages 18 to 65 who are free of psychiatric disorders and certain medical conditions. Researchers will evaluate the effects of the experimental medication ketamine on brain receptors in healthy and depressed adults. Study includes 1 to 6 weeks of outpatient procedures: a screening visit, computer tasks, rating scales, neuropsychological testing, two intravenous infusions, a blood draw, brain scans (MEG & fMRI) and may include optional 2-4 overnight stays for a sleep study. The study is conducted at the Clinical Center. There is no cost to participate and compensation is provided. To find out if you qualify, email moodresearch@mail.nih.gov or call 1-877-MIND-NIH (1-877-646-3644), TTY 1-866-411-1010. Refer to study 04-M-0222.

Asthma Study Is Recruiting

Do you have asthma? NHLBI is seeking volunteers with asthma for a study. Two outpatient visits and one inpatient stay at the Clinical Center are required. Compensation may be provided. For more information, contact the Office of Patient Recruitment, 1-866-444-2214 (TTY 1-866-411-1010). Refer to study 99-H-0076.

NICHD Seeks Healthy Kids

NICHD seeks healthy children 8 to 17 years old to join a research study of growth and health behaviors. Compensation will be provided. Parents/guardians must give permission for children to participate. For more information, call 1-866-444-2214 (TTY 1-866-411-1010) and refer to study 15-CH-0096.

Malaria Vaccine Study Seeks Adults

NIAID seeks healthy 18 to 50-year-olds for an investigational malaria vaccine study. You will have outpatient study visits to the Clinical Center. Compensation may be provided. For more information, contact the Office of Patient Recruitment, 1-866-444-2214 (TTY 1-866-411-1010). Refer to study 15-I-0169.

Study Seeks Healthy Older Adults

Healthy older adults ages 55-75 are invited to participate in an outpatient research study investigating the benefits of omega-3 oil and blackcurrant supplements on vascular health. The goal of the study is to determine whether the supplements improve blood flow and blood vessel function that can affect your heart. Eligible participants must be medication-free and in good general health. The study will be carried out in an outpatient clinic and includes 4 visits over 6 months. Compensation is provided. For more information, call 1-800-411-1222 (TTY 1-866-411-1010) and refer to study 14-NR-0034.

Actress Bates Kicks Off NIH Lymphatics Symposium

BY HILLARY HOFFMAN

"Lymphatic disease is a life sentence," said Kathy Bates, Academy Award-winning actress and national spokesperson for the Lymphatic Education & Research Network (LE&RN), in her opening comments at the 2015 NIH Lymphatics Symposium on Sept. 29 at the NIAID Conference Center.

The 2-day trans-NIH symposium, "The Third Circulation: Lymphatics as Regulators in Health and Disease," focused on research into how the lymphatic system affects other organ systems. The body's lymphatic system consists of an intricate network of vessels, tissues and lymph nodes that play key roles in maintaining fluid balance, immune defense and fat absorption in the intestines. Sponsors of the event included NHLBI, NIDDK, NIAID, NEI, NCI and NICHD.

Bates kicked off the symposium by offering a patient's perspective on living with lymphedema, a chronic condition in which fluid builds up in tissues and causes them to swell. Lymphedema can occur when lymphatic vessels are blocked or damaged or lymph nodes are removed by surgery. Although the condition can be partially managed with treatment, there is no cure.

Bates spoke about her own experience with lymphedema, which she developed following breast cancer surgery, and shared stories from others living with the disease. Bates asked the audience to "imagine a lifetime of pain, swelling, daily self-massage, being careful to avoid infections that require costly trips to the hospital, wearing wraps and compression sleeves in hot weather."

Many physicians are unfamiliar with or poorly informed about lymphedema, she told the audience. As a result, patients often do not receive a timely diagnosis or proper therapy to manage their symptoms, which can be debilitating. Up to 10 million people in the United States have lymphedema or other lymphatic diseases, according to LE&RN.

"We are only beginning to appreciate how many organ systems in the body rely on a healthy lymphatic system to maintain their function and to avert disease," said NIDDK director Dr. Griffin Rodgers in introductory remarks at the symposium.

The symposium brought together lymphatic system researchers and organ



Academy Award-winning actress Kathy Bates (l), who is also national spokesperson for the Lymphatic Education & Research Network, speaks at the 2015 NIH Lymphatics Symposium. At right, Bates and NIDDK director Dr. Griffin Rodgers

PHOTOS: ERNIE BRANSON

experts from across the U.S. and Europe to explore the function of lymphatics in health and disease. Scientific talks and discussion sessions focused on the role of the lymphatic system in the cardiovascular, gastrointestinal, pulmonary, immune and central nervous systems and its involvement in eye diseases. A poster session showcased additional research in these areas.

Although the symposium covered a broad array of research directions, a common theme that emerged was the opportunity for new scientific discoveries related to the lymphatic system. By leveraging new technologies, researchers may gain better understanding of how the lymphatic system functions and is regulated under different conditions, which may lead to development of new treatments. In addition, multidisciplinary collaborations fostered at the symposium promise to boost what Rodgers termed the "understudied field" of the lymphatic system and how it affects the function of other organs in the body.

Video recordings from the symposium are archived at <http://videocast.nih.gov>.

NIAMS Expands Efforts to Reach Diverse Communities

NIAMS recently launched a new Spanish-language web site that provides free health information on conditions of the bones, joints, muscles and skin.

"Many diseases in our scientific portfolio have profoundly negative effects among Hispanics/Latinos and other minority groups, in terms of prevalence and poor health outcomes," said NIAMS director Dr. Stephen Katz. "We are committed to providing quality health information to all people, no matter what language they speak or what culture they identify with."



Web site traffic to NIAMS's Spanish-language content has grown at a rapid pace and now accounts for about 50 percent of its total web site traffic. To meet this high demand, the new site features quick and easy navigation tools to help Spanish-speaking individuals identify and locate NIAMS health topics. It also includes landing pages that provide all of the information offered on a given topic in one place. The web site, available at www.niams.nih.gov/espanol, also offers:

- ◆ Improved access to NIAMS's Spanish-language health information and related federal resources
- ◆ Information on participating in clinical research studies
- ◆ Responsive design that makes the site easier to read on mobile devices

NIAMS is committed to providing health information that is culturally and linguistically appropriate for diverse populations, including underserved racial and ethnic communities. The NIAMS Spanish-language materials are an integral component of the institute's suite of health resources that are part of its National Multicultural Outreach Initiative, many of which are also available in Chinese, Korean and Vietnamese.



NCI Postdocs Complete SRK Program

A cohort, competitively elected from the current female NCI postdoctoral trainee pool, recently completed the Sallie Rosen Kaplan Postdoctoral Fellowship for Women Scientists in Cancer Research (SRK) Program. The goal of the 1-year program is to strengthen leadership skills through workshops and seminars, mentoring and coaching, and providing a community of peers to retain and to help transition them to independent research careers. The fellows, research and second mentors and division directors attended a celebration that was followed by a potluck reception. The graduates are (from l) Liz Yanik, Khadijah Mitchell, Leah Randles, Maria Novikova, Rachel Van Duyne, Pam Gallagher, Clara Bodelon, Tiffany Lyle and Maeve Mullooly. Not shown is Liz Spehalski.